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Conference Abstract

The World Flora Online: Summary and Status

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Abstract

The World Flora Online (WFO) project was initiated in 2012 in response to Target 1 of the Global Strategy for Plant Conservation – "To create an online flora of all known plants by 2020" (CBD 2010, Wyse Jackson 2013). A WFO Consortium of 50 international institutions and growing has been formed (see Wyse Jackson and Miller (2015) for a historical overview).

The World Flora Online Public Portal (www.worldfloraonline.org) was relaunched in July, 2022. It is populated with a taxonomic backbone of plant taxonomic data, which integrates the International Plant Name Index (IPNI), World Checklist of Vascular Plants (WCVP, Govaerts et al. 2022), Tropicos, Angiosperm Phylogeny Group IV (A.P.G. 2016), Pteridophyte Phylogeny Group (Schüttpelz 2016) and others supplemented, inter alia, by the Global Compositae Checklist and Solanaceae Source. The WFO taxonomic backbone aims at covering all “effectively published” (Turland 2018) plant names that are in use or found in taxonomic literature and to integrate them into a modern phylogeny-based system of classification (Borsch et al. 2020). To facilitate the ongoing curation of the WFO backbone, identifiers, called WFO-IDs, have been created for 1.4 million names, including both vascular and non-vascular plants. WFO IDs are also cross-referenced to IPNI and WCVP identifiers as well as to the name IDs used in the source databases. WFO is updating the taxonomic backbone by engagement of new plant Taxonomic Expert Networks (TENs) focused on selected plant groups (for an example see Korotkova, this symposium), thus contributing to a transparent and inclusive reorganisation of the taxonomic research community.

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WFO also includes by now over 600,000 “content” data items gathered from digital floras and monographs, and other sources like International Union for Conservation of Nature (IUCN) threat assessments and the Botanical Gardens Conservation International (BGCI) Global Tree Assessment. Content data can be text descriptions, images, geographic distributions, identification keys, phylogenetic trees, as well as atomized trait data like threat status, lifeform or habitat of a taxon. Over 30 digital descriptive datasets have been received from sources such as Flora of Brazil, Flora of South Africa, Flora of China, Flora of North America, Flora of Thailand and many others. WFO aims at clearly showing the original sources to give credit to the authors, both for backbone and content data.

Extensive work is required to match the names associated with the submitted descriptions to the names and WFO-IDs in the World Flora Online taxonomic backbone and then merging the descriptive data elements into the WFO Portal. Numerous techniques have been adopted and created to accomplish the data cleaning, standardization and transformation required before descriptive data can be integrated. Among the new tools created is a system called Rhakhis developed at Royal Botanic Garden, Edinburgh (Hyam et al. 2022). Rhakhis is used to manage the WFO taxonomic backbone data including ingestion, editing and export and includes APIs to access the versioned backbone data.

This presentation will focus on the current state and plans for the future of the World Flora Online.

Keywords

flora, plants, plant names, plant taxonomy, plant descriptions, global strategy for plant conservation, taxonomic expert network

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